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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,547	10/15/2003	Yutaka Inada	243906US3	5592

22850 7590 05/17/2005

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EXAMINER

ADDISU, SARA

ART UNIT PAPER NUMBER

3722

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/684,547	Applicant(s) INADA ET AL.	
	Examiner Sara Addisu	Art Unit 3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 9 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) ☒ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) ☐ Notice of Informal Patent Application (PTO-152) |
| 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/11/03, 3/22/04</u> . | 6) ☐ Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by Leifer (U.S. Patent No. 2,725,775).

Leifer teaches a machine tool having a hollow base/bed (7) made from single casting and has a cover plate (18) that closes the open end (9) of the bed (see figures 1 & 2 and Col. 1, lines 66-69 & Col. 2, lines 14-16).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trumper (U.S. Pub. No. 2005/0056125).

Trumper teaches a machine tool having an X and Z-axis moving units, a workpiece rotating drive rotating about an axis (say C axis) that is parallel to Z-axis and a rotatable tuning unit for turning tool (44), for the purpose of moving and controlling the

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motions of the workpiece and the tool such that there is a point of contact between the two (See figures 1 & 32A and page 3: Col. 66 lines 4-7-8, Col. 67 & page 4: Col. 68 lines 1-5). Trumper teaches in Figures 4 and 7, machining point of the cutting tool coinciding with the axis of rotation (46) of the turning unit (also see Page 4, Col. 74). Although Trumper fails to teach tool Y-axis moving unit in combination with the machine tool described above (i.e. a rotatable tuning unit for turning tool (44) disposed on a unit that is capable of vertical movement), Trumper teaches linear motion in a vertical plane (i.e. Y-axis) (see figure 38A and page 12, Col. 156) such that the center axis of rotation of the rotary table coincides with the axis of the vertical motion (Y-axis). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to adapt the added feature of linear motion to Trumper's invention for the purpose of having the added advantage of controlling the relative motion between the cutting tool and a workpiece by producing a linear translation of the tool (2005/0056125, Page 1, Col. 2, lines 13-15). Additionally, it will provide accurate cutting conditions to meet manufacturing goals for three-dimensional surface features (Page 1, Col 5, lines 1-4 and 14-20).

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trumper (U.S. Pub. No. 2005/0056125), in view of Muller (U.S. Patent No. 4,833,764).

Trumper teaches a machine tool as set forth in the above rejection.

However, Trumper fails to teach the workpiece rotating drive (rotating about an axis, C axis) being deposited on the Z-axis moving unit).

Muller teaches a machine tool having a U-axis (redefined as Z-axis) moving unit (longitudinal carriage: 18) disposed on an X-axis moving unit (first translational carriage: 12), which is disposed on the top surface of bed (8). Muller also teaches a Y-axis moving unit (guide: 30) disposed on the vertical side surface of bed (8) {since bed 10 is for the tool support region and is rigidly interconnected with bed 8 to form a unit, Col. 4, lines 40-42}, and drive for workpiece (46) rotating about axis F (See figure 1). Muller also teaches a drive for rotating workpiece (46) that is disposed on the U-axis (redefined as Z-axis) moving unit (longitudinal carriage: 18) and axis F coincides with the center axis extending along the z-axis/U axis). Additionally, Muller teaches table (34) with tool working units (54₁, 54₂, 54₃ and 54₄), disposed on the Y-axis moving unit and rotatably mounting revolving head (36) having a vertical axis of rotation C (equivalent to B-axis of instant invention) (Col. 5, lines 15-17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Trumper's invention such that workpiece rotating drive is disposed on a Z-axis moving unit as taught by Muller for the purpose of opening up possibility of machining workpieces of arbitrary shape (without remounting of workpieces) starting from a blank and ending with a finished product ('764, Col. 6, lines 12-19).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Trumper (U.S. Pub. No. 2005/0056125), in view of Muller (U.S. Patent No. 4,833,764) and further in view of Schuler et al. (U.S. Patent no. 3,837,245).

Trumper and Muller teach a machine tool as set forth in the above rejection.

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However, Trumper and Muller fail to disclose the structure of the bed.

Schuler et al. teaches a machine tool having base block (bed) (10) made of cast iron with plurality of internal partitions (i.e. is hollow) and is filled with a core material (Col. 2, lines 21-26).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Trumper's invention such that bed is hollow as taught by Schuler et al. for the purpose of filling it up with core material for dampening of vibration ('245, Col. 1, lines 65-67).

Allowable Subject Matter

Claims 6,7, 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

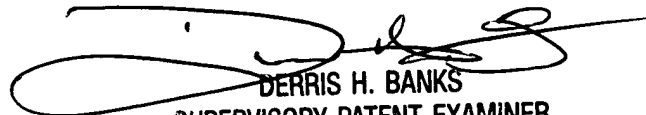
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sara Addisu at (571) 272-6082. The examiner can normally be reached on 8:30 am - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached on (571) 272-4419. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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